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ABSTRACT

A study investigated whether there was a positive relationship between collaborative learning techniques and the improvement of writing skills of college freshmen over a single semester. Two English Composition II classes of approximately 20 student each were randomly selected for the study. Over the course of one semester, one class received training in collaborative learning techniques, and classes were conducted using such techniques, including peer criticism, collaborative group work, "read aloud" exercises, and paired interview activities. The other class received traditional instruction consisting of lectures, large-group discussions, and individual conferences. Results showed that, while there was no significant difference in the pretest mean scores of the two groups, students trained in collaborative learning techniques scored significantly higher on the posttest, thus confirming the positive relationship between those techniques and the improvement of writing skills. (Two tables of data are included and 17 references are attached.) (SR)

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AN INVESTIGATION OF THE EFFECTS OF COLLABORATIVE LEARNING ON THE WRITING SKILLS OF COMPOSITION II STUDENTS AT GLOUCESTER COUNTY COLLEGE

Applied Educational Research and Evaluation Seminar

by

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Regional Cluster

A Practicum Report Presented to Nova University in partial fulfillment of the requirements for the degree of Doctor of Education

Nova University

December, 1991

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Abstract of a Practicum Report Presented to Nova University
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AN INVESTIGATION OF THE EFFECTS OF COLLABORATIVE LEARNING ON THE WRITING SKILLS OF COMPOSITION II STUDENTS AT GLOUCESTER COUNTY COLLEGE

by

Robert L. Hart

December, 1991

The primary purpose of this study was to determine if there was a positive relationship between collaborative learning techniques and the improvement of writing skills of college freshmen during the time frame of a single semester. The problem which prompted this study was the virtual lack of utilization of cooperative learning activities in the English Department at Gloucester County College. The research question, then, concerned whether students who received training in collaborative learning techniques would score significantly higher on an essay posttest than those students who had not received such training.

After an extensive literature review was conducted, two English Composition II classes were randomly selected to participate in the study. One class was randomly labeled the Experimental Group and the other the Control Group.

Students in both groups were pretested during the second class meeting of the semester and posttested at the end of twelve weeks. During the interim, the Experimental Group received experimental treatment while the Control Group did not.

At this point, two members of the Gloucester County College English Department holistically scored both the pretest and the posttest essays, using Educational Testing Service guidelines. Pretest means and standard deviations were then calculated and statistically analyzed by means of a one-tailed t-test at a confidence level of .01. The calculated value of t for the analysis of the pretest was 2.00, slightly lower than the tabled value of 2.492, thus indicating no significant difference in the pretest mean scores of the two groups.

When posttest means and standard deviations were subjected to identical t-test analysis, the resulting t was 4.83. Since this calculated value of t was greater than the critical value, 2.492, it was possible to reject the null hypothesis.

The principal conclusion derived from the results was that a significant difference existed between the posttest mean scores of the two groups, therefore granting validity to the research hypothesis. The significance of the difference was established by means of the t-test.

Recommendations included disseminating the findings of the study to faculty members at Gloucester County College and encouraging replication of the research. A final recommendation was made to faculty members who feel reluctant about attempting full-scale implementation of collaborative learning activities in the classroom; these instructors were encouraged to begin using collaboration on a limited basis.

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Chapter 1

INTRODUCTION

Background and Significance

Although collaborative learning techniques have been informally adopted in isolated instances by one or more faculty members at Gloucester County College (GCC), no one in Gloucester's English Department has heretofore conducted research into the relationship existing between classroom collaborative activity and the improvement of writing skills of students involved. In fact, in the English Department, there is virtually no utilization of this technique.

The need for each college student to achieve skills in writing is clear. Today, all professions and nearly all vocations require a mastery of communication skills, including writing. An ability to write effective reports, letters, and memoranda is crucial to advancement in most careers in the 1990s. The coordinator of the English Department, the chairman of the Liberal Arts Division, and the Vice-president of Faculty at Gloucester County College have all expressed an interest in the development of a collaborative learning program in writing at this institution. In addition, several members of the English Department have indicated a desire to examine the results of the study with the intention of using the collaborative writing approach in their classes.

One purpose of this practicum, therefore, was to determine if there is, indeed, a positive relationship between collaborative learning techniques and improved writing skills of college freshmen. Another purpose, of course, was to dissemimate such findings to all interested Gloucester County College faculty members, most particularly those in the English Department.

Peter Elbow (1973), a pioneer in the advocacy of using collaborative learning techniques in the teaching of writing, theorizes that students working in small groups will master writing skills faster than their traditionally-taught counterparts because they, rather than their teachers, bear the responsibility for learning. A study by Gibb and Gibb (1952) stresses the notion that active participation of students working in a small-group setting will prove beneficial in that the learners must take upon themselves the onus of producing, because the role of the teacher is minimized and interaction with peers is paramount. In collaborative learning, then, the focus is on the student rather than on the instructor, as will be seen in the following literature review, which was conducted to uncover similar research projects and to discover positions taken by acknowledged authorities in the fields of collaborative learning and the teaching of writing.

This practicum was related to the Applied Educational Research and Evaluation Seminar in which instruction was given in methods of systematic data collection and analysis and in the use and appropriateness of different statistical

tests to determine significance. In this study, a quasi-experimental research design was deemed appropriate and was, therefore, utilized. Two English Composition II classes were randomly selected to participate in the study. One was randomly labeled the Experimental Group and the other the Control Group. Both groups were pretested, and no significant differences could be found in their mean scores. The Experimental Group underwent the treatment, and the posttest was administered to both groups. The data gathered were statistically analyzed by means of a one-tailed t-test with an alpha level of .01, in order to ascertain if there were a significant difference between mean scores of the two groups.

The relationship, then, to the Applied Educational Research and Evaluation Seminar is apparent. The benefits to Gloucester County College students are no less apparent--if collaborative learning techniques are utilized in English classes on a department-wide basis. In addition, faculty members will benefit in that they will have a technique to add to their arsenal of methods for teaching writing, and the English Department and Liberal Arts Division as well as the college itself will benefit from improvements made to student learning.

Research Question

The central research question was as follows: "Did Gloucester County College students who received training in collaborative learning techniques score significantly higher on the posttest than those who had not received such training?"

Research Hypothesis

Gloucester County College students who undergo training in collaborative learning techniques will score significantly higher on a posttest than will those students who do not receive such training.

Null Hypothesis

Gloucester County College students who undergo training in collaborative learning techniques will not score significantly higher on a posttest than those students who do not receive such training.

Chapter 2

REVIEW OF THE LITERATURE

An extensive literature review was conducted to uncover research projects concerned with classroom use of collaborative learning techniques and to discover positions taken by acknowledged authorities in the fields of collaborative learning and the teaching of writing. Considerable numbers of studies in both categories were unearthed, including books and articles by Elbow (1973), Macrorie (1976), Bruffee (1980; 1984), Gebhardt (1980), Johnson and Johnson (1986), Wiener (1986), and Johnson, Johnson, and Holubec (1988), all ardent spokespersons for the collaborative learning movement. Their works, as well as studies by several other notables in the field, will be discussed at length and in chronological order, according to publication date.

Elbow's landmark work, Writing without Teachers (1973), is often quoted by collaborative-writing authorities, for it provides a foundation for the whole concept of writing for a specific audience--one's peers--rather than for an unknown audience or simply for the teacher. Elbow says (1973:77) that in the small group, "everyone reads everyone else's writing. Everyone tries to give each writer a sense of how his words are experienced." The goal, therefore, is not to please an instructor, but to have one's words or thoughts "refracted" through readers' minds in an attempt to use

language which clearly communicates the desired meaning. The immediate feedback provided by the audience is absolutely necessary. Elbow continues (1973:77), "To improve your writing you don't need advice about what changes to make; you don't need theories about what is good and bad writing. You need movies of people's minds while they read your words."

According to Elbow's model (1973:136), "the most appropriate path for learning to write is not to try to break up the skill into its ideal progression of components which can be learned one at a time, but rather to try to set up some situation in which the learner can persevere in working at the whole skill in its complexity." This holistic approach is an important component of the Elbow method, and the "situation" is the reading of early drafts to other members of the peer group (or the photocopying of drafts to be read by group members). At this stage, Elbow (1973:96) recommends "banning negative judgments" and suggests that peer group members look only for favorable things to say about the work. Furthermore, he believes that editing should be one of the last stages in the writing process.

Macrorie (1976) concurs with Elbow on almost all counts. First, he quotes Samuel Butler (Macrorie, 1976:77):

> . . . the mere act of reading aloud put his work before him in a new light and, by constraining his attention to every line, made him judge it more rigorously. I always intend to read, and generally do read, what I write aloud to someone; any one almost will do, but he should not be so clever that I am afraid of him. I feel weak places at once when I

> read aloud where I thought, as long as I read to myself only, that the passage was all right.

Better yet, asserts Macrorie (1976:78), the writer should read his work aloud to several other peer group members, and, at this point, he "should be given only encouragement." Later, "the prohibition against negative comments may be dropped." Referring to collaborative writing groups as "helping circles," Macrorie (1976:84) says that peer group members should truly "help" each other, that each person has a "responsibility--ability to respond. . . ," and that this "is what every serious writer is looking for: the effect of his writing upon individuals." He reiterates remarks made earlier by Elbow when he contends (Macrorie, 1976:265) that the entire small-group process "forces students to care for their writing. They have a real audience; they will become audience themselves." The students, says Macrorie (1976:267), work "like professionals, . . . aiming to produce a number of strong writings, not thinking simply of periodically supplying a teacher with a paper to be graded." In discussing the writing process as a whole--brainstorming, drafting, revising, editing, and publishing--Macrorie maintains (1976:267) that students and their peer response group members take their best work and "go on from there--frequently from success to success . . . [taking] a short paragraph with good bones and [putting] flesh on it. They add and cut drastically. They sharpen and polish. . . . They feel the pressure of possible publication." And all of this is brought

about not because an English instructor has demanded six or ten or fifteen essays by a given date, to be read by the instructor alone, but because the student is part of a group of writers and readers, whose audience is a known quantity.

Bruffee, writing in his text entitled A Short Course in Writing (1980:103), states that "the basic idea of collaborative learning is that we gain certain kinds of knowledge best through a process of communication with our peers. What we learn best in this way is knowledge involving judgment." Furthermore, he maintains that "the best way to learn to make judgments is to practice making them in collaboration with people who are at the same stage of development as we are" (Bruffee, 1980:103). And because the writing process involves "making judgments continually" (Bruffee, 1980:104), collaborative learning gains importance as a method of teaching writing. Bruffee sees a weakness in the so-called lecture/discussion method of teaching writing in that the teacher is the primary "focus of attention and, in fact, often does most of the talking" (1980:104), even during the "discussion" part of the session. But collaborative learning contrasts sharply with the above scenario, for here, the author says (Bruffee, 1980:104), "students focus on what each other has to say and on the way other students and they themselves apply their values in the process of making judgments and arriving at decisions." The teacher's role, on the other hand, is fourfold, according to Bruffee (1980:104,105): he or she must "design judgmental tasks" in

such a way that students will learn through the exchange of ideas with peers; the teacher must also "organize the community of students so that exchange can occur effectively; he or she must help students as they "negotiate among themselves to resolve differences of opinion and judgment" as well as aid them in understanding "why such differences occur" and how the final judgment can be improved upon; and finally, the teacher must "evaluate the quality" of each student's development while examining everyone's "contribution" to the learning of other people. This whole process is both time-consuming and difficult; perhaps that is why many teachers are reluctant to implement collaborative learning procedures in their classrooms, particularly when they conclude that their current methods are relatively successful.

In the same work, Bruffee (1980:105)--while acknowledging that when any "genuinely new idea occurs to someone," it is generally "locked up in" the individual's mind (and not part of any social process)--indicates that the next step in learning is learned "best in the society of, and with the help of, our peers." Here he emphasizes the work of both Piaget and Vygotsky--particularly the latter's "zone of proximal development" theory--and suggests "four practical models" which seem to be, in the author's words, "reliable and readily adaptable to college composition courses."

The first of these models--"paired interviews"--entails having students who work in pairs "(1) <u>tell</u> [each other] what

they are going to write about and what they're going to say about it (topic and proposition), (2) ask what their partners know about the topic that the writer can use in the essay, and (3) ask what their partners want to know about the topic" (Bruffee, 1980:106,107).

The second model calls for students to "read aloud" (Bruffee, 1980:107). "Writing is a social phenomenon, and reading aloud makes learning to write a social act." It is also, contends Bruffee (1980:107), "certainly the easiest, friendliest, and most economical means of publication." And publication is, of course, an important part of the so-called "writing process."

A third model--"collaborative group work"--is probably what most people think of when the term "collaborative learning" is used. Students are divided into groups of four to six people, with "five [being] the optimum size" (Bruffee, 1980:111). The groups are "semiautonomous" in that "decisions about what is to be done and how to do it are shared between the person organizing the groups (in this case, the teacher) and the people in the groups (in this case, the students)" (Bruffee, 1980:110). Tasks must be carefully designed and "challenging--just beyond the reach of students working on their own--but not so difficult that students are forced to rely on the teacher to complete them" (Bruffee, 1980:111). Bruffee also recommends that the composition of groups be changed each class period, so that absence of group members does not become a problem and so that

"unnecessary personal and social problems among members" do not interfere with group goal-attainment (Bruffee, 1980:111). After groups have met to complete their assigned tasks, each group should report its findings to the large group.

The final model proposed by Bruffee (1980:112) is "peer criticism." Here the author makes a distinction between evaluating and grading, saying that "students evaluate each other's work, but they do not grade it" (Bruffee, 1980:113), and, he adds, "evaluation is an important form of judgment." Furthermore, he contends (Bruffee, 1980:113) that "mature judgment is precisely what students learn best through collaborative learning. And peer criticism is the most rigorous, most intellectually engaging, most completely controllable and readily evaluated form of collaborative learning." Grading, on the other hand, is "basically an institutional function, not an educational one" (Bruffee, 1980:113). "No student is in the position to perform the function of grading adequately," says Bruffee (1980:113), precisely because grading is more than evaluating--it is comprised of evaluating, but other factors are also present in grading; among them, maintains Bruffee (1980:113), are the "level of student development, student progress, institutional quality and type, and course level." In peer criticism, then, "students learn to write helpful criticism of each other's work" (Bruffee, 1980:113), and all of these elements should be present: "learning" how to criticize effectively; criticizing "helpfully," and tactfully, "so that writers can accept what

[student critics] say and make changes accordingly"; "writing" critical responses, which Bruffee calls "the most real writing students ever do as students"; and "writing about each other's work," and thereby creating "the social context in which they learn the difficulties, subtleties, and great value of developing mature critical judgment" (1980:114,115).

Bruffee recommends usage of each of the above models individually or in any combination. The writer of this paper chose to combine all of the elements described, but stressed "collaborative group work" (Bruffee, 1980:110) and "peer criticism" (Bruffee, 1980:112) in setting tasks and procedures for the Experimental Group in the research study which will be described in the ensuing chapters of this paper.

Writing in 1980, Gebhardt (69) agrees with much of the foregoing, especially with regard to what he calls the "theoretical underpinnings" of collaborative writing. He states that these "underpinnings are the rhetorical sense of audience; the psychological power of peer influence; the transfer-of-learning principle by which students gain insights into their own writing as they comment on the work of others; and the principle of feedback through which students sense how well their writing is communicating." But Gebhardt (1980: 69) goes one step further. Maintaining that feedback is perhaps "the base of collaborative writing because it is what allows all the other principles to work," the author indicates that "a sense of audience is impossible unless a writer has had experience with how audiences have responded to different

approaches in the past" (Gebhardt, 1980:69). And "peer influence is nothing without feedback [indicating] whether peers approve or disapprove" (Gebhardt, 1980:69). Furthermore, there is virtually no "transference of skill from reading others' writing to critically viewing one's own" without "the kind of feedback a student receives when offering comments during collaborative workshops" (Gebhardt, 1980: 69,70). Moreover, too little emphasis is placed on "the emotional benefits of feedback to the writer" (Gebhardt, 1980: 70). All writers need this positive emotional feedback, especially "those who have received plenty of humiliation at the hands of English teachers" (Gebhardt, 1980:71). And, finally, contends Gebhardt (1980:73), students need feedback earlier in the writing process, not just during the editing stage. Gebhardt sees this need occurring when students are endeavoring to "locate promising topics," limiting topics, generating details about their topics, clarifying the focus, and developing "a clearer sense of audience" (Gebhardt, 1980: 73,74). Indeed, feedback is an integral part of the entire collaborative writing process.

Bruffee's later work (1984:636) traces the history of collaborative learning and discusses the "complex ideas that underlie collaborative learning" in order to "encourage other teachers to try [the technique] and to help them use [it] appropriately and effectively." In the early 1970s, says Bruffee (1984:637), many underprepared students "seemed to have difficulty adapting to the traditional or 'normal'

conventions of the college classroom." Tutoring and counseling programs set up by college administrators were largely ignored. "What [students] needed, it seemed, was help that was not an extension of but an alternative to traditional classroom teaching. To provide that alternative some colleges turned to peer tutoring" (Bruffee, 1984:637). When peer tutoring was combined with "peer criticism and classroom group work" (Bruffee, 1984:637), it was labeled "collaborative learning," a term borrowed from "our colleagues from Britain" (Bruffee, 1984:637). "Collaborative learning," asserts Bruffee (1984:638), "harnessed the powerful educative force of peer influence that had been--and largely still is--ignored and hence wasted by traditional forms of education."

Here again, as in his previously cited work, Bruffee (1984:642) takes issue with the notion that students in writing classes should carry out writing assignments which will be evaluated by the teacher, one "who is not a member of one's own status and knowledge community" and who may be likened to the employee's superior in the working world, such writing being done to please and impress that superior with knowledge and skills possessed. Bruffee's point is that too much time and energy is spent on this kind of activity and not enough time spent on writing "to inform and convince other people within the writer's own community, people whose status and assumptions approximate the writer's own" (1984:642). Borrowing a phrase from Richard Rorty, Bruffee states that

"the sort of writing most people do in their everyday working lives is [this so-called] 'normal discourse'" (1984: 642), referring to "conversation within a community of knowledgeable peers" (1984:642). He defines the term "community of knowledgeable peers" as "a group of people who accept, and whose work is guided by, the same paradigms and the same code of values and assumptions" (Bruffee, 1984:642). In virtually every curriculum, maintains Bruffee (1984:643), the goal of the teacher is to aid students in acquiring "the ability to carry on in speech and writing the normal discourse of the field in question," and not the amount of "'facts' or data one may know." And it is in this context, contends Bruffee (1984:644), that the strength of collaborative learning can be observed, for one of the primary goals of collaborative learning is to allow students the opportunity to "practice and master the normal discourse exercised in established knowledge communities in the academic world and in business, government, and the professions."

Bruffee (1984:646) then addresses the question about collaborative learning which is most frequently raised: Is this not "the blind leading the blind?" Are not students teaching their peers and being taught by them when neither they nor their peers are "members of the knowledge community [which they some day] hope to enter"? The author effectively dispels this notion when he says (Bruffee, 1984:644) that "no student is wholly ignorant and inexperienced. Every student is already a member of several knowledge communities."

The author (Bruffee, 1984:652) concludes his essay with a charge to teachers of "expository writing," that they demonstrate "to students that they [students] know something only when they can explain it in writing to the satisfaction of the community of knowledgeable peers. To teach this way, in turn, seems to require us to engage students in collaborative work that does not just reinforce the values and skills they begin with . . ."

While concurring with Bruffee in some respects, Bizzell (1986:6) questions whether students trained in a collaborative writing class can become successful members of the "academic discourse community." She states, "Collaborationist advocates of writing across the curriculum describe the writing class as initiating students into academic discourse. But there is theoretically no way for the collaborative class to find out if its notion of good writing matches that of the academy, unless a class member happens to be familiar with it" (Bizzell, 1986:6). Those who advocate the "conventional" approach to teaching writing have equally distressing problems, according to Bizzell (1986:7), because they "tend to assume that the success of the whole initiation process [into the academic discourse community] is linked to the compatibility of personalities in dialogues." If professors are friendlier, more approachable, "more willing to explain what they do when they write and what they expect students to do, . . . success will follow," say the conventionalists (Bizzell, 1986:7). The author disputes this notion, also, and concludes with a call

for more studies in an area where a "paucity of such descriptive research" exists today (1986:8). Though it may appear that Bizzell is somewhat negative about the collaborationist's point of view, she is, according to Reither (1987:3)--who is a staunch advocate of collaborative learning--one of two people who have worked hard "to call attention to a far broader way of conceptualizing the notion of collaborative writing." (The other collaborationist is Kenneth Bruffee.) And Bizzell herself implies that she is probably more advocate than denigrator when she says (1986: 2): "In the past I have identified myself with the taxonomists," thus indicating that her position now is not the same.

Clines, also writing in 1986 (3), asserts that student writers today are taught to express themselves by "look[ing] within and releas[ing] what is good and true," instead of "tak[ing] advantage of social interaction" and cooperating with their peers, thereby realizing the considerable "benefits of collaboration" (1986:1). Theories that extol introspection and the individual voice are not wrong, the author contends (Clines, 1986:3), but "they are useful for understanding [just] one way that discourse may be created." Other models, particularly collaborative writing models, offer much more. Clines (1986:4) believes that writing instructors should not continue to teach writing as "a private matter." When teachers "give assignments to individuals [and] . . . grade individuals . . . [or]

encourage individuals to work on their own and do independent, original work" (Clines, 1986:4), the students "never stop competing long enough to realize the benefits of collaboration" (Clines, 1986:3). While decrying the apparent total lack of collaborative activities among student writers today, Clines (1986:3) maintains that even "coming together . . . in the editing or revising stages" is inadequate, for students must learn how to "invent together"--that is, to begin writing collaboratively during the earliest stages of the writing process.

Two of the foremost researchers in the field of collaborative learning, Johnson and Johnson (1986:14), point out that there is a considerable difference between "traditional group learning and cooperative learning." In traditional learning groups, in which teachers divide students into groups of two or three in order to have them "work together" on an assignment, there is "no interdependence" (Johnson and Johnson, 1986:14). But in the cooperative learning situation, there is "positive interdependence," assert Johnson and Johnson (1986:14), because "students need to be concerned about performance of all group members as well as their own." This is true, the authors say, because students in "cooperative learning groups" are held "individual[ly] accountable" for mastery of "assigned material" (Johnson and Johnson, 1986:14). In most instances, student learning outcomes are assessed individually and collectively; that is to say that students will receive their

individual scores, but will also receive combined scores of other students in their groups (Johnson and Johnson, 1986:17). Thus, students possess a "shared responsibility for each other" which they would not have in the "traditional learning group" (Johnson and Johnson, 1986:14).

Hanna (1987:50) is another proponent of collaborative writing. In his classes, he uses what he calls the "student learning cell" grouping. Each cell is made up of three students "who evaluate each other's rough drafts prior to the re-writing process of final drafts which are to be evaluated by the instructor." The structure of the cell is especially important to Hanna, who suggests "assigning a short writing sample to the students early in the semester" (1987:50). The instructor should then rank the sample papers to create "three categories: good, fair, and poor. The learning cell is then formed by placing one student from each rank in a cell" (Hanna, 1987:50). According to the author, the results of the utilization of learning cells for writing instruction have been quite positive. He says that the small size of the group encourages active participation by each group member. Each "assumes the teacher role and transforms his knowledge of writing in such a way as to help others within the group" (Hanna, 1987:50). In addition, maintains Hanna (1987:50), "the better students begin to help their peers clean up their writing assignments." Although he does not cite specific research studies, the writer (Hanna, 1987:51) asserts that "most studies have indicated

that students improved their writing with peer-evaluation at least as much as they did using instructor evaluation." However, Hanna purports that other studies have shown that "students evaluated by peers improved more than when they were only evaluated by teachers."

Reither (1987:1), alluded to earlier, cautions against using the terms "collaborative writing" and "coauthoring" synonymously. Collaborative writing, in his view, means much more than the latter. Reither (1987:1) contends that coauthorship "suggests that students continue producing texts for texts' (and evaluations') sake." But "defining collaborative writing as community writing implies that students use language and texts to make meaning and community together" (Reither, 19871). Using language that is reminiscent of Bruffee (1984), Reither (1987:4) says that "whenever we write (and read and speak and listen) we compose together with those who have been and are members of our discourse communities. Whenever we write we are collaborating with past and present participants in the ongoing conversation through which our reality, knowledge, thought, facts, texts, selves are created, constituted, maintained through symbolic action." Collaborative writing, then, is so much more than mere coauthorship; it is writing which serves "actual, pragmatic functions" (Reither, 1987:10).

Johnson, Johnson, and Holubec (1988) cite numerous studies which they and others have conducted in the areas of competitive, individualistic, and cooperative learning.

Their concern about cooperative learning--which dates back to the 1960s--focuses, in part, on "training teachers in the classroom use of cooperation" (1988:v), but their "review of the research [comparing] the relative effectiveness of cooperative, competitive, and individualistic efforts" (1988:1:6) has resulted in some remarkable findings, one of which is the vast number of research studies conducted (more than 500 in a 90-year period, the first having been carried out in 1897). The other finding is particularly applicable to this paper; in the words of Johnson, Johnson, and Holubec (1988:1:6): "That working together to achieve a common goal produces higher achievement and greater productivity than does working alone is so well confirmed by so much research that it stands as one of the strongest principles of social and organizational psychology." In fact, say the authors,

> Learning basic facts, understanding concepts, higher level reasoning, problem solving, and applying may all be best done in cooperative learning groups. The more conceptual the task, the more problem solving that is required, and the more creative the answers need to be, the greater the superiority of cooperative over competitive and individualistic learning. Cooperative learning is indicated whenever the learning goals are highly important, the task is complex or conceptual, problem solving is desired, divergent thinking or creativity is desired, quality of performance is expected, higher level reasoning strategies and critical thinking are needed, and long-term retention is desired. (Johnson, Johnson, and Holubec, 1988:1:6)

But that is not all. "In addition to achievement," say the authors, "cooperation (compared with competitive and individualistic efforts) results in more positive interpersonal relations among individuals, regardless of

differences in ability, effect sizes of ethnic background, handicaps, or sex" (Johnson, Johnson, and Holubec, 1988:1:6).

Golub (1988:1) believes that "interest in collaborative learning has grown because of some assumptions that are changing in one or more . . . areas of English instruction." Some English teachers are examining traditional concepts of pedagogy, particularly the emphasis on the lecture with the teacher as "dispenser of information" (Golub, 1988:1). In collaborative learning, asserts Golub, "students are supposed to talk with each other as they work together on various classroom projects and activities, and it is in this talking that much of the learning occurs" (1988:1). It is this student interaction with student, then, that "changes the role or function of the teacher from 'information giver' to 'guide on the side,'" says Golub (1988:1,2). Finally, the author emphasizes the necessity for teachers to "train students to develop specific collaborative learning skills" so that they can interact "productively and harmoniously" in small groups (Golub, 1988:2).

Like many of the previously cited writing collaborationists, Herreman (1988:6) recommends focusing on "the group process as an integral part of the writing process." She provides opportunities for students to brainstorm collectively, indicating that this allows them to share their individual ideas and listen to new ideas, thus "expand[ing] the students' idea base and giv[ing] them more possibilities to begin drafting" (Herreman, 1988:6). The

second stage of the writing process--drafting--can fit into the collaborative writing procedure if students in each group have a common topic; she suggests discussion of "an essay-type question" by the small group as part of the brainstorming sequence, followed by the drafting of a response as a group (Herreman, 1988:6). She maintains that "the key to success in this stage is to require all students to make contributions to the group's final product" (Herreman, 1988:7). In the revision stage, students are required to "focus on a particular aspect of their papers" (Herreman, 1988:7), but should not be expected to redesign the entire paper; if instructions by the teacher are too "nebulous" at this step in the writing process, students may become discouraged and confused. It is also important, according to Herreman, to give students "a specific amount of time to complete [this] task" (1988:7), rather than to give unlimited time, because the discussion could quickly move off-topic if allowed to. The final two stages of the writing process--editing and publishing--are conducive to the collaborative learning process, in Herreman's view; but, again, she cautions against providing too much time for the editing stage and recommends that each small group look for just one type of error in the manuscript, for example, "punctuation errors . . . [or] capitalization" errors (1988:7). Regarding publishing, Herreman suggests simply reading the finished paper to others in the small group or constructing "literary magazines or anthologies that feature student work" (1988:8).

Sills (1988:21) states that "the word cooperation means to act jointly, to concur," and that individuals in a cooperative environment "come to some kind of agreement." But, she contends, "it is probable that a certain amount of dissension will have preceded consensus," and that "it is within the tension of this initial opposition that learning takes place." She continues: "cooperative learning is thus a deliberate attempt to take advantage of differing perspectives through the interaction of individuals and their ideas in a reciprocal or alternating action."

One of the collaborative learning models recommended by Sills (1988:24) is the collaborative writing task, in which students "collaboratively plan, draft, and revise a writing assignment for a common grade." Concerns expressed by colleagues about the "common grade" aspect of the task are met head-on: "(1) the collaboratively written assignment is just one grade out of many that will determine an individual's final grade for the course and, therefore, probably will not unduly influence the final grade; and (2) the ability to function effectively as part of a team is a marketable skill in both the academic world and the business world" (Sills, 1988: 26).

The preceding review of literature builds a strong case for implementation of a collaborative writing program at the college level. Indeed, virtually every authority, researcher, and practitioner in the area of collaborative learning is of one mind regarding the collaborative approach: that it

provides a better framework for the teaching of writing than does any other approach, particularly the lecture or lecture-discussion format. The research study to be described in the following chapters is based, in large part, on the findings and recommendations of the writers whose works are reviewed above.

Chapter 3

METHODOLOGY AND PROCEDURES

The primary methodology utilized in this study was that of quasi-experimental research. An extensive review of the literature relative to collaborative learning and the teaching of writing was conducted to assist in providing a conceptual base for the practicum. In addition, an appropriate statistical treatment was selected.

Upon completion of the literature review, two English Composition II classes were randomly selected to participate in the study. One class was randomly labeled the Experimental Group and the other the Control Group. The approximate size of the groups at the outset of the study was twenty students.

Students in both the Experimental Group and the Control Group were given a pretest in the form of an 50-minute in-class essay assignment the second time each class met at the beginning of the semester. The essays were scored holistically, according to Educational Testing Service guidelines, by two members of the English Department who, between them, have more than twenty years of experience in holistic grading. (This holistic scoring system has been in place at Gloucester County College for approximately fifteen years.)

The Experimental Group received training in collaborative learning techniques, and classes were conducted

using these techniques, which have been described at length in the preceding chapter of this paper. Particular emphasis was placed upon "collaborative group work" (Bruffee, 1980: 110) and "peer criticism" (Bruffee, 1980:112), but also employed were Bruffee's "paired interviews" (1980:106) and his "read aloud" model of collaborative learning (1980:107). The Control Group received traditional instruction--that is, they heard lectures, engaged in large-group (entire class) discussions, and met in individual conferences with the instructor. However, Control Group students were not divided into formal collaborative groups; in fact, they were not encouraged to work in small groups on their own.

A posttest (a 50-minute in-class essay assignment) was administered to both groups at the end of twelve weeks. The posttest essays were also holistically scored by the scorers of the pretest essays. It should be noted that scorers did not know names of students (a numbering system was used) and did not know which essays were those of Experimental Group members and which were essays of Control Group members. In addition, both pretest and posttest essays were scored at the same time, with scorers not knowing which essays were pretests and which were posttests. Furthermore, the pretest scores of those Control Group and Experimental Group students who were not present for the posttest were discarded, as were the pre-test and posttest scores of all students in both groups who were not present for at least 80 percent of the class sessions.

A "nonrandomized control-group pretest/posttest design" (Isaac and Michael, 1981:69) was employed. Pretest means and standard deviations were compared for similarity.

The data gathered were statistically analyzed by means of a one-tailed t-test with an alpha level of .01, in order to ascertain the significance of difference between mean scores of the two groups. (No significant difference could be found in the pretest mean scores of the two groups, but a significant difference could be found in the posttest mean scores of the two groups, as will be described in the "Results" chapter of this study.)

Definitions of Terms

All terms used in this paper have been defined in the "Review of the Literature" chapter. It should be noted, however, that the terms collaborative and cooperative have been used interchangeably.

Limitations

Since neither group (Control or Experimental) was composed of volunteers, one possible threat to validity was reduced. However, other sources of contamination did exist, including interaction between selection and history, between selection and maturation, and between selection and testing. There was little probability of controlling these variables; therefore, a quasi-experimental approach was taken, with the results subjected to statistical analysis, using a one-tailed t-test with an alpha level of .01, in order to ascertain whether there was a significant difference

between the scores of Experimental Group students and Control Group students. In addition, unidentified or unidentifiable variables may have affected posttest scores of both groups, but this would not seem to affect one group and not the other.

The smaller than anticipated number of students in both the Experimental Group and the Control Group was a source of concern (fourteen and twelve, respectively). However, this decline in number from approximately twenty in each group was primarily the result of mortality and the imposition on the part of the researcher of an eighty percent attendance requirement. If this is viewed in the light of the researcher's intention to include in the posttest only those students who were present a sufficient number of times to reap the benefits of either the collaborative or the conventional in-class learning activities, the decision to exclude posttest scores of students with poor attendance records should be, perhaps, not a limitation, but a favorable factor.

One final limitation should be noted, and that is the possibility of Control Group students working collaboratively outside of the classroom. Even though cooperative activity was never a part of the routine during class sessions, there was no way of determining whether Control Group students worked together outside of class or not. However, given the competetive nature of many students, particularly those who have been taught in the traditional mode for so many years, it seems unlikely that very much collaborative activity

could have taken place outside of the classroom or that such activity could have had any real bearing on the outcome of the study.

Assumptions

At the beginning of the study--prior to data analysis--it was assumed that the Experimental Group and the Control Group were similar in terms of writing skills. The two groups were chosen at random from a pool of three groups taught by the researcher. The assumption became reality when, some thirteen weeks later, analysis of the pretest mean scores of the two groups showed no significant difference. It should be noted that results of the analysis of posttest mean scores reveal a t value of 2.0; a tabled value of "2.492" or greater indicates significant difference at the .01 alpha level for the one-tailed test (Issac and Michael, 1981:228).

Second, it was assumed that the two classes selected for the study were reasonably similar to all other English Composition II classes at the college. That is to say that there were neither "honors" nor "remedial" English Composition II classes homogeneously grouped during the semester in which the study took place. Therefore, the selected groups were representative of the entire English Composition II population at Gloucester County College.

Third, it was assumed that eliminating the possibility of students' volunteering to be included in the study would result in the reduction of one threat to validity. It was

also assumed, however, that interaction between selection and history, between selection and maturation, and between selection and testing would probably not be controllable. A quasi-experimental approach was therefore employed.

Fourth, it was assumed that "conducting an . . . experiment without the subjects being aware of it . . ." would help to reduce the effect of certain variables, including those associated with motivation or lack of it (Isaac and Michael, 1981:70). (Students in the two classes were not told of their inclusion in the study until after the posttest.)

Finally, it was assumed that students in the Control Group did not engage in extensive collaborative learning activities outside of the classroom. In-class activities were not cooperative in any true sense; out-of-class activities could not, of course, be monitored.

Chapter 4

RESULTS

The extensive literature review was completed and organized according to chronology. Both early and late studies seemed to indicate a positive relationship between collaborative activity and improvement of writing skills, with few, if any, unqualified exceptions.

As described in the previous chapter, once the review of literature had been completed, two English Composition II classes were randomly selected to participate in the study. One class was randomly labeled the Experimental Group and the other the Control Group. At this point, the number of students in each group was approximately twenty.

A pretest, in the form of a 50-minute in-class essay assignment, was administered to both groups during the second class meeting of the semester. The essays were later scored holistically by two members of the Gloucester County College English Department. (As indicated previously, the scoring was carried out <u>after</u> posttest essays were administered, so that readers would be unaware of which essays were pretests and which were posttests and so that pretests and/or posttests of frequently absent students or dropouts could be discarded.)

The Experimental Group received training in collaborative learning techniques, and classes were conducted with

students engaging in collaborative activities. These activities and protocols have been discussed extensively in Chapter Two of this paper. The Control Group, on the other hand, received traditional instruction, listening to lectures, discussing assignments and questions posed in the large-group setting, and meeting individually in conference with the instructor--in short, not working in small groups. They did not, for example, engage in "peer criticism" (Bruffee, 1980:112), "collaborative group work" (Bruffee, 1980:110), "read aloud" exercises (Bruffee, 1980:107), or "paired interview" activities (Bruffee, 1980:106). In fact, students in the Control Group were not encouraged to work in small groups in or out of class.

At the end of twelve weeks, a posttest was administered to both the Experimental and the Control Group. The test was of fifty minutes' duration, was administered to both groups on the same day during the regular class session, and was similar to--but not exactly like--the pretest.

A scoring range of one through six was utilized, according to Educational Testing Service recommendations, and essays were read twice (once by each reader). There were no "discrepant" scores; that is, neither reader gave any paper a score that was more than one point higher or lower than the score given by the other reader. Also, all scoring was "blind," meaning that readers did not know scores given by the other reader. In addition, scorers did not know names of students--because of the numbering system

used--and did not know which essays were written by Control Group students and which by Experimental Group students. As indicated earlier, the pretest scores of Control and Experimental Group students who were not present for the posttest were discarded, as were pretest and posttest scores of all students who were not present for at least 80 percent of the class sessions.

Pretest means and standard deviations were then calculated and statistically analyzed by means of a one-tailed t-test at a confidence level of .01. The number of scores, the mean of scores, and the standard deviation are exhibited in Table 1.

Table 1

Pretest Numbers of Scores, Means of Scores, and Standard Deviations

Group	Number of Scores	Mean of Scores	Standard Deviation
Experimental	14	6.8571	1.2314
Control	12	6.5833	1.0836

Once the above calculations were made, the data were then subjected to a one-tailed t-test at a confidence level of .01. According to a table of normal distribution values, the "significance level" for a one-tailed t-test at the .01 confidence level--with 24 degrees of freedom-- is "2.492"

(Isaac and Michael, 1981:228). The calculated value of t for the analysis of the pretest (2.00) was less than the tabled value (2.492), thus indicating no significant difference in the pretest mean scores of the two groups.

When posttest means and standard deviations were calculated and statistically analyzed by means of a one-tailed t-test at a confidence level of .01, however, the results were quite different. Table 2 shows the number of scores, the mean of scores, and the standard deviation for the posttest.

Table 2

Posttest Numbers of Scores, Means of Scores, and Standard Deviations

Group	Number of Scores	Mean of Scores	Standard Deviation
Experimental	14	8.0000	.8770
Control	12	7.4166	1.2375

After calculations were completed, the data were then subjected to a one-tailed t-test at a confidence level of .01. The results (4.83) were compared with the table of normal distribution values alluded to earlier (Isaac and Michael, 1981:228), which showed a tabled value of "2.492" for a one-tailed t-test at the .01 confidence level, with 24 degrees of freedom. Therefore, since the calculated

t for the posttest (4.83) was greater than the critical value (2.492), the analysis of the data through testing permits the null hypothesis to be rejected.

Chapter 5

DISCUSSION, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Discussion

The results of the practicum were unquestionably related to the primary purpose, which was to determine if there was a relationship between the utilization of collaborative learning techniques in the writing classroom and the improvement of the writing skills of the students involved. The random selection of Composition II classes to be included in the study, the random selection of classes to be labeled Control Group and Experimental Group, and the collection of data related to both the pretest and the posttest were all carried out according to the research plan. The subjection of the data to the appropriate statistical treatment then provided the anticipated answer to the research question. It should be noted, however, that the answer to the research question--as well as any conclusions, implications, and recommendations derived from that answer--must be viewed in light of the limitations and assumptions described in Chapter 3 of this paper.

The review of literature was indeed related to the primary purpose of the study in that it revealed an apparent interest on the part of many researchers to examine the concept of collaborative learning and its application to the

classroom, particularly the writing classroom. It also had value in the sense that conclusions drawn by most researchers, authorities, and practitioners in the fields of collaborative learning and the teaching of writing all seemed to be of one accord--that collaborative learning provides a better framework for the teaching of writing than does any other approach.

Conclusions

The principal conclusion derived from the results was that the research hypothesis was valid. In this study, the research hypothesis was that "Gloucester County College students who undergo training in collaborative learning techniques will score significantly higher on a posttest than will those students who do not receive such training." This hypothesis, then, was verified, and the analysis of the data allowed the null hypothesis to be rejected, as stated previously. Thus, it was concluded that there was indeed a significant difference in the posttest mean scores of the two sample groups being tested, and the significance of the difference was established by means of the t-test.

Implications

While the study was successful in terms of rejecting the null hypothesis, verifying the research hypothesis, and answering the research question, the small sample size and the fact that this was the only research study of its kind conducted at Gloucester County College both lend support to the notion that further study is required, at GCC and elsewhere. This somewhat negative implication is joined by one

very positive implication--one that became apparent when the major conclusion was given careful consideration. That implication--which is borne out by the relative strength of the findings of this study--is that students engaging in the writing process should be encouraged to work in small groups throughout the entire process, from brainstorming through drafting, revising, editing, and--ultimately--publishing. A third implication growing out of the other two is the need to inform other faculty members at Gloucester County College of the results of this study, particularly those English instructors who previously expressed a desire to replicate the study in their own classes. A final implication of the study is the need to make administrators at the college aware of the validity of the use of collaborative learning techniques in the classroom.

Recommendations

Several recommendations were made as a direct result of this study. The first is a recommendation to administrators at Gloucester County College that the findings of the study be disseminated to faculty members in all departments of the college for review and discussion. A second recommendation is to encourage faculty members who have indicated an interest in replicating the study to do so. Finally, it is recommended that faculty members who are reluctant to attempt any full-scale implementation of a collaborative writing program such as this one be encouraged to begin on a limited basis and evaluate the results before using it extensively.

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